AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of the claims in this application.

LISTING OF THE CLAIMS:

1. (Currently amended) A strain sensor which consists of a polymer that has been irradiated with less than ~~1x1015 ions/cm~~ $1x10^{15}$ ions /cm^2 in a portion of its surface to produce strain dependent electrical properties with conducting tracks deposited onto the treated portion to enable the sensor to be connected to an external electric circuit.

2. (Original) A strain sensor as claimed in claim 1 in which the polymer is a polyimide film.

3. (Currently amended) A method of forming a strain sensor from a polymeric film which includes the steps of selectively irradiating a surface of the polymer with high energy radiation at an intensity less than $1x10^{15}$ ions /cm^2 to produce strain dependent electrical properties ~~to change the composition of the polymer and increase the electrical conductivity~~ in selected portions of the surface.

4. (Original) A method as claimed in claim 3 in which the high energy radiation carbonizes the polymer to form conductive particles in the polymer.

5. (Original) A method as claimed in claim 3 in which high energy ions impinge on a polymer film containing precursor metal compounds, such that decomposition of the precursor leads to nucleation of conducting metal particles.

6. (Previously presented) A method as claimed in claim 3 in which the polymer is a polyimide.

7. (Previously presented) A method as claimed in claim 3 in which conducting tracks are deposited onto the treated polymer to enable the device to be connected to an external electric circuit.

8. (Currently amended) A strain sensor made by the method ~~of any one~~ of claim 3.